REPLACEMENT CLAIMS

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Claim 1 (original). An optical logic device for processing information optically using the transmitted and/or reflected characteristics of at least one stable, non-absorbing optical hard limiter.

Claim 2 (original). The optical logic device of claim 1, wherein at the least one stable, non-absorbing optical hard limiter comprises alternating layers of materials with different linear indices and oppositely signed Kerr coefficients.

Claim 3 (original). The optical logic device of claim 1, wherein the transmitted characteristics of a stable, non-absorbing optical hard limiter comprise:

a first range bounded by input signals in the range of approximately zero to I1 in which the transmitted output signal of the stable, non-absorbing optical hard limiter is approximately zero;

a second range bounded by input signals in the range approximately from the I1 to I2 in which the transmitted output signal of the stable, non- absorbing optical hard limiter increases zero to I2; and

a third range bounded by input signals in the range above approximately I2 in which the transmitted output signal of the stable, non- absorbing optical hard limiter is approximately I2, where I1 is approximately half of I2.

Claim 4 (currently amended) The optical logic device in claim 1, wherein the reflected characteristics of a stable, non-absorbing optical hard limiter comprise:

a first range bounded by the input signals in the range of approximately zero to I1 in which the reflected output signal of the stable, non-absorbing optical hard limiter approximately equal to the input signal;

a second range bounded by input signals in the range approximately from I1 to I2 in which the reflected output signal of the stable, non-absorbing optical hard limiter decreases is approximately I1 for an input signal of I1 to approximately zero for an input signal of I2; and

a third range bounded by input signals in the range above approximately I2 in which the reflected output signal of the stable, non- absorbing optical hard limiter ~~is~~ increases as the input signal increases above I2, where I1 is approximately half of I2.

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Claims 5-11 (withdrawn).